said branch instruction occurs in parallel with the execution of said instructions in said basic block in order to speed up the overall processing of said program.

79. A method for executing branches in single entry-single exit (SESE) basic blocks (BBs) in a plurality of programs utilized by a number of users, said method comprising the steps of:

determining the branch instruction within each said basic block of each of said programs,

adding information to said branch instructions,

processing the instructions in each said basic block of each said program, and

completing the execution of said branch instructions in each said basic block no later than during the time duration of processing the last instruction in each respective basic block for a given program so that the execution of said branch instruction occurs in parallel with the execution of said instructions in said basic block in order to speed up the overall processing of said programs.

80. A method for executing branches in single entry-single exit (SESE) basic blocks (BBs) contained within a program, said method comprising the steps of:

determining the branch instruction within each said basic block of said program,

scheduling processing of said branch instruction,

processing said instructions in each said basic block, and

completing the execution of said scheduled branch instruction no later than during the processing of the last executed non-branch instruction in said basic block so that the execution of said branch instruction occurs in parallel with the execution of said instructions in said basic block in order to speed up the overall processing of said program.

81. A method for executing branches in single entry-single exit (SESE) basic blocks (BBs) in a plurality of programs utilized by a number of users, said method comprising the steps of:

determining the branch instruction within each said basic block of each said programs,

scheduling processing of said branch instructions,

processing the instructions in each said basic block of each said program, and

completing the execution of said scheduled branch instruction no later than during the processing of the last executed non-branch instruction in said basic block for a given program so that the execution of said branch instruction occurs in parallel with the execution of said instructions in said basic block whereby overall processing throughput of all said programs is increased.

82. A method of executing scheduled branches in single entry-single exit (SESE) basic blocks (BBs) contained within a program, said method comprising the steps of:

determining the branch instruction within each said basic block of said program,

adding instruction firing time information to said scheduled branch instruction,

processing said instructions in each said basic block, and

completing the execution of said scheduled branch instruction no later than during the processing of the last executed non-branch instruction in said basic block so that the execution of said branch instruction occurs in parallel with the execution of said instructions in said basic block in order to speed up the overall processing of said program.

83. A method for executing scheduled branches in single entry-single exit (SESE) basic blocks (BBs) in a plurality of programs utilized by a number of users, said method comprising the steps of:

determining the branch instruction within each said basic block of each of said programs,

adding instruction firing time information to said scheduled branch instruction,

processing the instructions in each said basic block of said programs, and

completing the execution of said scheduled branch instruction no later than during the processing of the last executed non-branch instruction in said basic block for a given program so that the execution of said branch instruction occurs in parallel with